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## RCS大鼠病变过程中视网膜电图振荡电位的分享到:

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Title: Frequency domain analysis of dark-adapted oscillatory potentials of electroretinogram in RCS rats

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关键词: [视网膜电图](#); [振荡电位](#); [皇家外科学院大鼠](#); [频域分析](#)

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摘要: 目的 观察皇家外科学院大鼠 (royal college of surgeons, RCS) 视网膜变性过程中的暗适应视网膜电图 (electroretinogram, ERG) 振荡电位 (oscillatory potentials, OPs) 频域特性。方法 选择出生后20、30、40 d及60 d的RCS大鼠各3只, 采用RETI-scan记录系统进行闪光视网膜电图 (flash electroretinogram, F-ERG) OPs记录, 记录电极为环形角膜电极, 参考电极为不锈钢针状电极, 刺激强度为0dB, 通过Matlab提取OPs成分, 分析其频谱特性。结果 相对于同龄的正常大鼠, RCS大鼠OPs频域幅值明显重度降低 ( $P<0.01$ ), 且高频成分缺失。RCS大鼠发育过程中, 随着病程进展至40 d时对应的频率向高频部分明显延迟 ( $P<0.05$ ), 进展至60 d时其频域幅值明显降低 ( $P<0.05$ )。结论 RCS大鼠ERG的OPs频域特性与视网膜功能

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的变性程度存在相关性，利用这些特性可以更明显观察到视网膜变性对大鼠视网膜功能的影响。

**Abstract:** **Objective** To investigate the characteristics of frequency domain of dark-adapted oscillatory potentials (OPs) of electroretinogram (ERG) in Royal College of Surgeons (RCS) rats. **Methods** Different ages (20, 30, 40 and 60 d) of RCS- $rdy^{-}p^{+}$  rats were involved, and there were three rats of each age. Dark-adapted OPs of flash ERG (F-ERG) was recorded with RETI-scan system. Gold-foil ring cornea electrode was used as the recording electrode and home-made stainless steel needle electrode was used as the reference. The intensity of light was 0 dB. OPs components were extracted by software Matlab 7.0 and the